

PATENT COOPERATION TREATY



PCT

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PD020096	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/EP 03/0235	International filing date (day/month/year) 15.09.2003	Priority date (day/month/year) 27.09.2002
International Patent Classification (IPC) or national classification and IPC G11B20/18		
Applicant THOMSON LICENSING S.A. ET AL.		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>		
Date of submission of the demand 27.03.2004	Date of completion of this report 08.03.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Glasser, J-M Telephone No. +49 89 2399-6011 	

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP 03/10235

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-11 as originally filed

Claims, Numbers

1-13 as originally filed

Drawings, Sheets

1/10-10/10 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded.."

**INTERNATIONAL PRELIMINARY REPORT
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International application No.
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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-13
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-13
Industrial applicability (IA)	Yes: Claims	1-13
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

- D1: US-A-4 949 326 (TAKAGI YUJI ET AL) 14 August 1990
D2: US 2001/020261 A1 (ITO SEIGO ET AL) 6 September 2001
D3: US-B1-6 189 110 (KIBASHI AKIRA ET AL) 13 February 2001
D4: EP-A-1 239 478 (MATSUSHITA ELECTRIC IND CO LTD) 11 September 2002
D5: US 2002/001272 A1 (FUKUSHIMA YOSHIHISA ET AL) 3 January 2002

- 1 The application does not meet the requirements of Article 6 PCT, because claim 1 is not clear. The following method step seems to be missing: after recording, a post processing investigates all the defect blocks (see description page 5, lines 11-13).
- 2 Notwithstanding the above mentioned lack of clarity, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.

Document **D1** is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (the references in parentheses applying to this document) a method for recording a data stream on a storage medium, wherein said data stream is recorded in data blocks (figure 4, "check sectors"), comprising the following steps:

- generating an error correction block for one or more data blocks (column 2, lines 32-42);
- keeping a spare data area on the storage medium blank (column 4, lines 39-45);
- storing said data block in said *alternate* spare data area (column 7, lines 45-60).

The subject-matter of claim 1 therefore differs from this known method in that it comprises the steps of :

- reconstructing a defect data block using said second error correction block
- writing said error correction block on said storage medium during recording
- storing reconstructed data block in said spare data area.

The problem to be solved by the present invention may therefore be regarded as combatting errors in data blocks due to future defects, for instance due to dust, while recording a storage medium.

The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

Document D1 also discloses, for reading an optical disk, a data reconstruction method based on a second error detection/correction method (column 6, lines 40-43; column 7, lines 45-58 and column 8, line 40 to column 9, line 31) and writing said error correction block on said storage medium during recording (column 8, lines 54-55);

However, document D1 discloses, detecting defective blocks by using a first error correction code in reading immediately after recording (column 7, lines 45-60), see also D2, page 2, paragraph 19. A read verification of just written data is done using the first error correction code in order to solve the problem of dust rendering a disk defective (column 7, lines 45-60). This solves the same problem as cited in the application (see description page 6, lines 16-24) in the same manner.

Thus applying the disk reading method of D1, based on correcting errors using an error correction code written in a spare area, to the recording method of D1 in order to solve the above mentioned problem does not involve an inventive step. Furthermore, storing reconstructed data blocks instead of storing original data blocks is one of several possible alternatives from which the person skilled in the art would choose in accordance with circumstances, without the exercise of inventive skill.

- 2.1 The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding **independent claims 8 and 13**, which are therefore also considered not inventive.
- 2.2 **Dependent claims 2-7, 9-12** do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT with respect to novelty or inventive step, the reasons therefor are that their features have already been employed for the same purpose in the prior art or

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consist of slight constructional changes which come within the scope of the customary practice followed by persons skilled in the art. See for instance:

Claim 3, 10: D2, paragraph 448.

Claims 4, 12: D1, figure 6b and claim 1.

Claim 5: D2, figure 36 and paragraphs 5-7.

Claim 6: D2, paragraph 234-236.

Claim 7: D3, figure 6.

Claim 9: D2, figure 36.

Claim 10: D2, figure 36.

Claim 11: D1, claim 1.

Claim 12: The Blu-ray Disc Specification v1.0 was released on May 20, 2002: It is a method of optical disk implementation well known in the art and hence does not involve an inventive step. See also D3, claim 7.